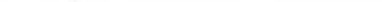




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Substitute for Form 1442/PTO		Complete If Known	
<b>INFORMATION DISCLOSURE STATEMENT BY APPLICANT</b> <i>(Use as many sheets as necessary)</i>		Application Number	10/634,289
		Filing Date	August 5, 2003
		First Named Inventor	Amy Mae Bunker, et al
		Art Unit	1625
		Examiner Name	Evelyn Mei Huang
		Attorney Docket Number	PC25244A
Sheet	2	of	4

Examiner Signature		Date Considered	11/01/05
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				Application Number	10/634,289
				Filing Date	August 5, 2003
				First Named Inventor	Amy Mae Bunker, et al
				Art Unit	1625
				Examiner Name	Evelyn Mei Huang
Sheet	3	of	4	Attorney Docket Number	PC25244A

NON PATENT LITERATURE DOCUMENTS						
Examiner Initials*	Cite No. <sup>1</sup>	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume-issue number(s), publisher, city and/or country where published.				T <sup>2</sup>
SJH		From PCT/IB03/03485 International Search Report				
		Office Action from 10/264,764, mailed 06.16.03				
		Chen, et al., "Structure-Based Design of a Novel, Potent, and Selective Inhibitor for MMP-13 Utilizing NMR Spectroscopy and Computer-Aided Molecular Design", JACS, 2000; 122: 9648-9654.				
		Lovejoy, et al., "Crystal structures of MMP-1 and -13 reveal the structural basis for selectivity of collagenase inhibitors", Nature Structural Biol., 1999; 6: 217-221.				
		Moy, et al., "High-resolution Solution Structure of the Catalytic Fragment of Human Collagenase-3 (MMP-13) Complexed with a Hydroxamic Acid Inhibitor", J. Mol. Biol., 2000; 302:671-689.				
		Mitchell, et al., "Cloning, Expression, and Type II Collagenolytic Activity of Matrix Metalloproteinase-13 from Human Osteoarthritic Cartilage", J. Clin. Invest., 1996; 97(3):761-768.				
		Neuhold, et al., "Postnatal expression in hyaline cartilage of constitutively active human collagenase-3 (MMP-13) induces osteoarthritis in mice", J. Clin. Invest., 2001; 107(1):35-44.				
		Dahlberg, et al., "Selective Enhancement of Collagenase-Mediated Cleavage of Resident Type II Collagen in Cultured Osteoarthritic Cartilage and Arrest with a Synthetic Inhibitor That Spares Collagenase 1 (Matrix Metalloproteinase 1)", Arthritis & Rheum., 2000; 43(3):673-682.				
		Billinghurst, et al., "Comparison of the Degradation of Type II Collagen and Proteoglycan in Nasal And Articular Cartilages Induced by Interleukin-1 and the Selective Inhibition of Type II Collagen Cleavage by Collagenase", Arthritis & Rheum., 2000; 43(3):664-672.				
SJH		Billinghurst, et al., "Enhanced Cleavage of Type II Collagen by Collagenase in Osteoarthritic Articular Cartilage", J. Clin. Invest., 1997; 99(7):1534-1545.				

Examiner Signature	S. Huang	Date Considered	11/18/05
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		Application Number	10/634,289
		Filing Date	August 5, 2003
		First Named Inventor	Amy Mae Bunker, et al
		Art Unit	1625
		Examiner Name	Evelyn Mei Huang
Sheet	4	of	4
		Attorney Docket Number	PC25244A

<b>NON PATENT LITERATURE DOCUMENTS</b>			
Examiner Initials*	Cite No. <sup>1</sup>	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume-issue number(s), publisher, city and/or country where published.	T <sup>2</sup>
<i>SM</i>		Hirota, et al., "Novel Synthesis of Pyrido[3,4-d]Pyrimidines, Pyrido[2,3-d]-Pyrimidines, And Quinazolines Via Palladium-Catalyzed Oxidative Coupling", Heterocycles, 1994; 37(1):563-570.	
<i>SM</i>		Wernicke, et al., "Cloning of Collagenase 3 from the Synovial Membrane and Its Expression in Rheumatoid Arthritis and Osteoarthritis", J. Rheum., 1996; 23:590-595.	
<i>SM</i>		Reboul, et al., "The New Collagenase, Collagenase-3, Is Expressed and Synthesized by Human Chondrocytes but not by Synoviocytes", J. Clin. Invest., 1996; 97:2011-2019.	
<i>SM</i>		Fremont, et al., "In situ zymographic localisation of type II collagen degrading activity in osteoarthritic human articular cartilage", Ann. Rheum. Dis., 1999; 58:357-365.	

Examiner Signature	<i>Erin Strange</i>	Date Considered	<i>4/8/05</i>
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Substitute for form 1449/PTO

## INFORMATION DISCLOSURE STATEMENT BY APPLICANT

(Use as many sheets as necessary)

Sheet 1

of 3

### Complete If Known

Application Number	10/634,289
Filing Date	08-05-2003
First Named Inventor	Amy Mae Bunker
Art Unit	1614
Examiner Name	Unknown

Attorney Docket Number PC25244A

### U. S. PATENT DOCUMENTS

Examiner Initials*	Cite No. <sup>1</sup>	Document Number	Publication Date MM-DD-YYYY	Name of Patentee or Applicant of Cited Document	Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear
		Number-Kind Code <sup>2</sup> & known			
S/M	US-10/071,032	02-08-2002	Dyer, et al		
	US-2002/0156061 A1	10-24-2002	Barvian, et al		
	US-2003/0004172 A1	01-02-2003	Harter, et al		
	US-2003/0078276 A1	04-24-2003	Andrianjara, et al		
	US-2002/0193377 A1	12-19-2002	Andrianjara, et al		
	US-2002/0151558 A1	10-17-2002	Andrianjara, et al		
	US-2002/0156069 A1	10-24-2002	Picard, et al		
	US-6,656,932 B2	12-02-2003	Picard, et al		
	US-2002/0161000 A1	10-31-2002	Barvian, et al		
	US-2003/0087924 A1	05-08-2003	Sorenson		
	US-2003/0144274 A1	07-31-2003	Bunker, et al		
	US-2002/0151555 A1	10-17-2002	Barvian, et al		
	US-2003/0130278 A1	07-10-2003	Gaudilliere, et al		
	US-2003/0216402 A1	11-20-2003	Gaudilliere, et al		
	US-2003/0220355 A1	11-27-2003	Gaudilliere, et al		
	US-2004/0006077 A1	01-08-2004	Gaudilliere, et al		
	US-10/634,531	08-05-2003	Johnson		
S/M	US-10/634,709	08-05-2003	Bunker, et al		
S/M	US-10/634,162	08-05-2003	Wilson		

### FOREIGN PATENT DOCUMENTS

Examiner Initials*	Cite No. <sup>1</sup>	Foreign Patent Document	Publication Date MM-DD-YYYY	Name of Patentee or Applicant of Cited Document	Pages, Columns, Lines, Where Relevant Passages Or Relevant Figures Appear	T <sup>6</sup>
		Country Code <sup>3</sup> Number <sup>4</sup> Kind Code <sup>5</sup> (if known)				
S/M	WO 02/064599 A1		08-22-2002	Dyer, et al		
	WO 02/064547 A2, A3		08-22-2002	Barvian, et al		
	WO 02/064598 A1		08-22-2002	Harter, et al		
	WO 02/064080 A2, A3		08-22-2002	Andrianjara, et al		
	WO 02/064572 A1		08-22-2002	Andrianjara, et al		
S/M	WO 02/064595 A1		08-22-2002	Andrianjara, et al		

Examiner Signature

*S. Stearns*

Date Considered

1/8/05

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# INFORMATION DISCLOSURE STATEMENT BY APPLICANT

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Sheet 2 of 3

## Complete If Known

Application Number	10/634,289
Filing Date	08-05-2003
First Named Inventor	Amy Mae Bunker
Art Unit	1614
Examiner Name	Unknown

Attorney Docket Number PC25244A

## U. S. PATENT DOCUMENTS

Examiner Initials*	Cite No. <sup>1</sup>	Document Number Number-Kind Code <sup>2</sup> (If known)	Publication Date MM-DD-YYYY	Name of Patentee or Applicant of Cited Document	Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear
SAY		US- 10/634,473	08-05-2003	Bunker, et al	
		US-			
SAY		US- 10/634,180	08-05-2003	Bunker, et al	
RAY		US- 10/634,712	08-05-2003	Hicks, et al	
SAY		US- 10/634,181	08-05-2003	Li	
SAY		US- 10/634,489	08-05-2003	Roark	
SAY		US- 10/634,420	08-05-2003	Roark	
SAY		US- 10/634,716	08-05-2003	Nahra, et al	
SAY		US- 10/634,288	08-05-2003	O'Brien	
SAY		US- 10/634,717	08-05-2003	Nahra, et al	
SAY		US- 10/634,177	08-05-2003	Wilson	
SAY		US- 10/634,290	08-05-2003	Wilson	
SAY		US- 10/634,182	08-05-2003	Li	
SAY		US- 10/634,419	08-05-2003	Hicks, et al	
SAY		US- 10/634,713	08-05-2003	Picard	
SAY		US- 10/634,225	08-05-2003	Picard, et al	
SAY		US- 10/634,718	08-05-2003	Ortwine	
SAY		US- 10/739,261	12-18-2003	Bunker, et al	
		US-			

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SAY	✓	WO 02/064578 A1	08-22-2002	Picard, et al		
	✓	WO 02/064571 A1	08-22-2002	Barvian, et al		
	✓	WO 02/064568 A1	08-22-2002	Barvian, et al		
	✓	WO 03/032999 A1	04-23-2003	Bunker, et al		
	✓	WO 03/033478 A1	04-24-2003	Gaudilliere, et al		
SAY	✓	WO 03/076417 A2, A3	09-18-2003	Gaudilliere, et al		

Examiner Signature	<i>Say</i>	Date Considered	1/18/05
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## **INFORMATION DISCLOSURE STATEMENT BY APPLICANT**

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Sheet 8

of 3

Complete If Known

Application Number	10/634,289
Filing Date	08-05-2003
First Named Inventor	Amy Mae Bunker
Art Unit	1614
Examiner Name	Unknown
Attorney/Agent Number	PC05244A

Attorney Docket Number PC25244A

**U. S. PATENT DOCUMENTS**

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